

**Metropolitan District Commission
Division of Watershed Management**

**Sudbury Reservoir Watershed System
Public Access Plan Update 2002**

I. Introduction

The purpose of this plan is to guide and control public access and use of lands managed by the Metropolitan District Commission Division of Watershed Management (MDC/DWM) within the Sudbury Reservoir Watershed System. The Sudbury Reservoir Watershed System (Sudbury System) consists of the lands and reservoirs in the watersheds of the Sudbury Reservoir and the three Framingham Reservoirs, Foss (Reservoir No. 3), Brackett (Reservoir No. 2), and Stearns (Reservoir No. 1). The Sudbury Reservoir and Reservoir No. 3 are back-up drinking water supplies for the MWRA water supply system. Reservoirs Nos. 1 and 2 are no longer considered water supply reservoirs.

Public access to and recreational use of water supply lands are complex and often controversial issues. There is an inherent conflict between water supply protection and public demand for access to water supply lands. Human activity on or near water supply source waters can introduce disease-causing agents to the water supply. Water supply managers must exercise caution when considering policies for public access and recreation on water supply lands. At the same time, the Division recognizes that these reservoirs and the MDC lands surrounding them are valuable environmental resources of the Commonwealth that are attractive open spaces to watershed residents and the general public. MDC views its Public Access Plans as a blueprint for determining the levels of access that may be allowed without risking water supply safety and security or re-directing resources of a Division whose primary responsibility is water supply protection.

A. Overview of the MDC/MWRA Water Supply System

1. Brief History

Since 1919, the Metropolitan District Commission (MDC), a state agency within the Massachusetts Executive Office of Environmental Affairs (EOEA), has functioned to protect metropolitan Boston's drinking water supply in accordance with M.G.L. Chapter 350 of the Acts of 1919 §123. In 1984, the Massachusetts legislature, under M.G.L. Chapter 372 of the Acts of 1984, divided the former MDC Water Division into the MDC Division of Watershed Management and the Waterworks Division of the Massachusetts Water Resources Authority (MWRA). The MDC/DWM became responsible for reservoir watershed operation and management to provide a safe and sufficient supply of water to the MWRA. The MWRA became responsible for the distribution, transmission, and treatment of this water.

The Division currently has two Operational Sections. The Wachusett/Sudbury Section is responsible for the daily operations in the Wachusett Reservoir watershed and the Sudbury System. The Quabbin/Ware Section is responsible for the Quabbin Reservoir watershed and Ware River watershed. The MDC/DWM protects the reservoir water quality by managing and controlling activities occurring within lands and waters in the respective watersheds. Together, MDC/DWM and the MWRA provide drinking water to more than 2.5 million residents in forty-seven communities (see **Figure 1 – MDC/MWRA Drinking Water Supply System**).

During the nineteenth century, the Boston area had obtained water mostly from Lake Cochituate in Natick, a reservoir completed in 1848 under the auspices of the Boston Water Board. Some communities were also served by the Mystic Lakes. By 1878, public health officials determined that these sources of supply would prove inadequate, so a system of seven reservoirs to supplement the Cochituate system was constructed by the Boston Water Board. These new reservoirs, created by holding back portions of the Sudbury River, were: Sudbury, Whitehall, Hopkinton, Ashland, Stearns, Brackett, and Foss (the last three referred to respectively as Framingham Reservoirs Nos. 1, 2 and 3).

Limited yield, urbanization of the watersheds, and unsatisfactory water quality led to an investigation for additional water supply of satisfactory quantity and quality. A study completed by the state health board in 1895 recommended the development of a reservoir along the South Branch of the Nashua River. The predecessor to the MDC, the Metropolitan Water Board, was created in 1895 with the planning and development of the Wachusett Reservoir. The Wachusett Dam and Reservoir were completed in 1908, harnessing the Nashua River in central Massachusetts as the new source of drinking water for metropolitan Boston.

The Metropolitan Water Board, Sewer Board, and Parks Commission were combined by the Commonwealth as the Metropolitan District Commission in 1919. State officials realized during the 1920s that, once again, additional sources of water were needed to serve the growing needs of Eastern Massachusetts. The Quabbin Reservoir was created in the 1930s, using the Windsor Dam to impound the Swift River and flood an area formerly occupied by the four Western Massachusetts towns of Dana, Enfield, Greenwich, and Prescott. The Ware River was also identified as a source of water, which could be used from October through June when flows in the river are sufficient for diversion and there is demonstrated need. Diversions of water from the Ware River are conveyed into the Quabbin Reservoir at Shaft 11A through the Quabbin tunnel aqueduct.

Since water started flowing from Quabbin Reservoir in 1948, no new sources of drinking water have been required to meet the water supply needs of metropolitan Boston. Through ongoing improvements of the distribution system by the MWRA and watershed management by the MDC, the current prognosis is that the MDC/MWRA watershed system will provide adequate supply and delivery to the MWRA member communities well into the 21st century.

The creation of the Wachusett and Quabbin Reservoirs meant that increasingly substandard source waters from many of the reservoirs in the Sudbury System could be discontinued.

Figure 1: MDC/MWRA Drinking Water Supply System

go to www.mass.gov/dcr/waterSupply/watershed/documents/2002sudplanfig1.pdf

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The Whitehall, Hopkinton, Ashland and Cochituate Reservoirs were transferred in 1947 to the predecessor agency of the Department of Environmental Management (DEM) for use as State Parks.

Evidence of serious toxic pollution to the Sudbury River surfaced in the late 1960s. In 1970, the Nyanza textile plant was cited as a source of mercury contamination and the site was designated as an EPA Superfund site in 1982. Wastes had contaminated the sediments in Reservoirs Nos. 1 and 2. Significant progress has been made on this clean-up, which is being administered by the US Environmental Protection Agency and the Massachusetts Department of Environmental Protection. A risk assessment is currently underway on segments of the Sudbury River.

The entire Sudbury System was officially removed from active use and classified as an emergency water supply in 1976. Today only the northern reservoirs (Sudbury and Reservoir No. 3) are classified as a reserve drinking water supply. Reservoirs Nos. 1 and 2 are unlikely to be used as water supply in the foreseeable future. Some discussions have occurred regarding disposition of these two reservoirs and MDC lands surrounding them for recreational use. No decisions, however, have been reached on this issue.

The Sudbury Reservoir and Reservoir No. 3 remain the only reserve drinking water supply source for over two million residents of Eastern Massachusetts. Although not currently in use, the reservoirs are on standby status and could be activated in the event of an emergency to provide drinking water.

There are three emergency conditions that would require the use of the Sudbury System:

- 💧 Wachusett Reservoir is declared non-potable;
- 💧 there is an inability to convey water from the Wachusett Reservoir to the MWRA system (e.g., failure of the Hultman Aqueduct, Southborough Tunnel, or the City Tunnel); or
- 💧 a serious drought occurs.

Depending on the situation, the Sudbury Reservoir would be used either as a primary source of water supply, as a pass through of Wachusett Reservoir water, or as a supplemental source to the Quabbin and Wachusett Reservoirs.

2. MDC Division of Watershed Management Mission

The MDC Division of Watershed Management's mission is laid out in its enabling legislation and subsequent amendments, found at MGL ch. 92, §§ 104-120. The statute directs the DWM to:

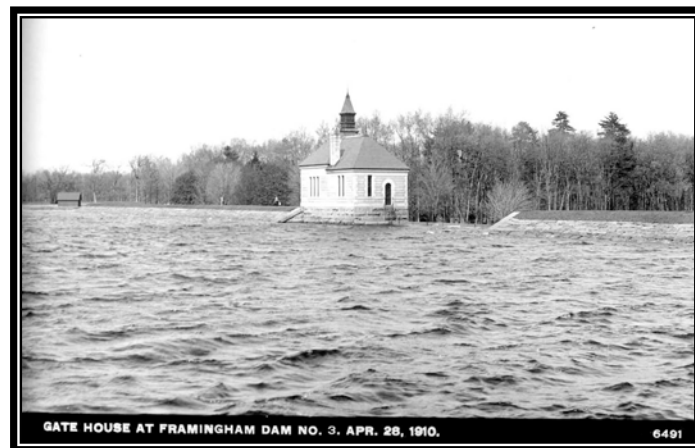
...construct, maintain and operate a system of watersheds, reservoirs, water rights and rights in sources of water supply [to] supply thereby a sufficient supply of pure water to the Massachusetts Water Resources Authority, and [to] utilize and conserve said water and other natural resources to protect,

preserve and enhance the environment of the Commonwealth and to assure the availability of pure water for future generations.

Building on this legislatively defined mission, MDC/DWM responsibilities include:

- 💧 Maintenance and operation of the source facilities (including dams) safely and efficiently.
- 💧 Preservation and enhancement of the water quality of the supply sources, using education, enforcement, and cooperation to protect public health and meet state and federal water quality standards.
- 💧 Watershed management activities associated with surface water protection.
- 💧 Regulatory compliance with specific directives of the Legislature, such as the protection of the water supply sources, consideration of recreation opportunities, and enforcement of rules and regulations for MDC/DWM lands and water resources.
- 💧 Public outreach and education to involve watershed towns, residents, and the public to increase stewardship of the water resources under DWM care and control (MDC/DWM, 1998).

MDC/DWM staff concentrates on the management, operation, and maintenance of the MWRA/MDC water supply system watersheds, reservoirs, dams, and dikes. Division staff includes professional engineers, analysts, planners, watershed rangers, foresters, naturalists, bacteriologists, geographic information specialists, wildlife biologists, and support staff with a variety of skills and training. Division staff carries out specific watershed protection programs, provides public outreach and environmental education to watershed communities and visitors, and administers and enforces specific watershed protection regulations (350 CMR 11.00). MDC/DWM staff activities are guided, integrated, and prioritized by the *MDC/DWM Watershed Protection Plans and Updates* (MDC/DWM, 1991, 1998, and 2000). Public access management within land owned by or on waters controlled by the Division is an important element of the MDC/DWM comprehensive watershed protection program.



B. Plan Update

1. Watershed Protection Plans

In 1991, the MDC/DWM and MWRA prepared Watershed Protection Plans for the Wachusett Reservoir and Quabbin Reservoir/Ware River watersheds, respectively. These were the first comprehensive plans written for management of the watersheds. In 1998, DWM updated the 1991 Wachusett Reservoir Watershed Protection Plan; the Quabbin Reservoir Watershed Protection Plan was updated in 2000. The Plan Updates reflect the shift of the water supply industry and federal drinking water regulations towards concern for microbial contaminants that can cause acute illness.

In 1997, the MWRA and MDC completed the Watershed Protection Plan for Sudbury Reservoir and Framingham Reservoir #3. The Plan was initiated by the agencies to determine appropriate water quality goals for this reserve drinking water supply and to develop a watershed protection plan to meet those goals while balancing available MDC resources. Three major goals were recommended in this plan, developed for MDC/DWM by Comprehensive Environmental, Inc. These goals are:

- 💧 Institute a water quality monitoring program.
- 💧 Support watershed and water quality education and awareness programs.
- 💧 Provide technical assistance to watershed communities on water quality protection measures.

The 1997 Watershed Protection Plan for Sudbury Reservoir and Framingham Reservoir #3 recognized that the strongest protection measure for this reserve drinking water supply is the protected lands owned by the MDC.

Recreational use of watershed lands and waters is a potential cause of water supply contamination and was ranked as a moderate priority in the updated Watershed Plans. MDC/DWM controls recreational use on its water supply lands through specific regulations and policies set forth in the Public Access Plans. MDC/DWM has developed and updated its Public Access plans for each of the four watersheds under its care and control (Sudbury Reservoir – 1994; Wachusett Reservoir – 1995; Quabbin Reservoir – 1988 and 1998; Ware River – 1988 and 2000).

2. Purpose of a Public Access Plan

The purpose of MDC/DWM's Public Access Plans is to guide and control public access, incorporating the most current information available, so as to minimize the impacts from recreational activities on the drinking water supply and other lands managed on a watershed basis by the MDC. The federal Safe Drinking Water Act and Amendments, state drinking water regulations, and the Metropolitan District Commission's Watershed Protection Regulations require that public access on drinking water supply lands must be managed to minimize the risk of waterborne disease and to control other impacts such as sedimentation. The primary function of these water supply lands is to protect and provide

high quality drinking water for current and future generations. The MDC/DWM's access plans detail the Division's management rationale and explain which programs and activities are used to limit and control access to these lands and waters.

Public access, in the Division's management context, is a wide-ranging concept. It includes the physical ability to enter and use land for recreational activities; the legal restrictions or prohibitions related to access or specific land or water-based recreational activities; sign placement; mapping; user education; intergovernmental coordination; public safety; and protection of public and private property rights.

3. 1994 Sudbury Public Access Plan

In 1994, the MDC undertook the task of completing the first Public Access Plan for its lands in the Sudbury Reservoir watershed. Chapter 372 of the Acts of 1984 requires the MDC Division of Watershed Management to adopt watershed management plans for lands under its care and control, including policies for recreational use of watershed lands. The 1994 Public Access Plan generally maintained public access policies that had been in place in the Sudbury System lands for decades. In addition, the plan set forth a number of recommendations for active management of recreational activities at Sudbury. The plan focused on three key elements of resource management: access control, use restrictions, and improved enforcement of existing regulations and policies. The Plan also included an in-depth inventory of the natural resources and an inventory of recreational impacts to watershed resources to assess the existing situation and determine the level of degradation that existed. Using this information, policies were developed to support a protection strategy, the objectives of which included restoration from existing past use impacts and minimization of the potential impacts to water quality and the natural resources from permissible uses.

4. Why Update the Sudbury Access Plan?

It is prudent to periodically revisit the Plan to identify changes in existing conditions, to identify and evaluate the policies that have been implemented, and to assess additional needs to meet the mandate of water quality and resource protection. Legislative mandates also require the Division of Watershed Management to update its watershed protection plans on a five-year basis. More importantly, the 1994 Plan outlined an aggressive schedule for access controls, education, enforcement, site restoration, and pilot programs for access to less critical lands. Unfortunately, financial and personnel resources envisioned in the 1994 Plan have not met the levels needed to fully implement recommendations. In addition, since 1994, the desire for additional recreational opportunities on MDC and all other Commonwealth lands has steadily grown. The Plan Update revises implementation priorities, re-assesses the public's recreational desires, and develops a response to evaluate these demands with the Division's primary goals of water supply and resource protection.

5. Public Input

MDC/DWM has found public access management of public drinking water supply lands and waters is a complex and controversial topic. The stakeholders include the water supply managers who must comply with regulations, drinking water consumers who pay for watershed protection through water bills, and the host communities. In addition, private landowners living next to water supply lands may be positively or negatively affected by public access management decisions (Bureau of Land Management, 1991,1993,1998). Formal and informal recreational groups who have been restricted in the watershed areas may be affected. Other interested parties include water supply advisory committees, the actual water supply watershed communities, and countless individual stakeholders.

The constraints and desires related to public access on drinking water supply land are numerous. Public input thus plays an important role in the Division's process of updating a Public Access Plan which addresses the Division's mandate of protecting a drinking water supply while also evaluating the recreational desires of the reservoir watershed's host communities.

The original 1994 Sudbury Public Access Plan was developed after numerous meetings were held in order to gain input from both the municipal officials and the general public. While this Plan Update is not as detailed a process, it was still important to seek the input of the public and municipal agencies. In August 2001, MDC contacted the governing board of the municipalities that encompass the lands of the Sudbury System. Each community was asked to designate one or more representatives to serve on a steering committee to help develop the Plan Update. In addition, a representative of the Sudbury Valley Trustees, a local land trust, was invited to participate as well as other members of the Sudbury System communities. A committee was formed, which included Board of Selectmen members, conservation officials, neighborhood representatives, and recreation interests (see Acknowledgements on front cover).

The committee met on a number of occasions to review the existing Plan, providing concerns with the existing plan, proposals for policy changes, and input on the implementation phase of the Plan Update. The committee reviewed a draft of the Plan Update prior to its public release. The final steps in the planning process involve public notification and review, which includes a public hearing. Comments from the public hearing have been considered in the final Plan and included in Appendix D. A vote by the MDC Commissioners on December 19, 2002 adopted the policies described in the Plan Update.

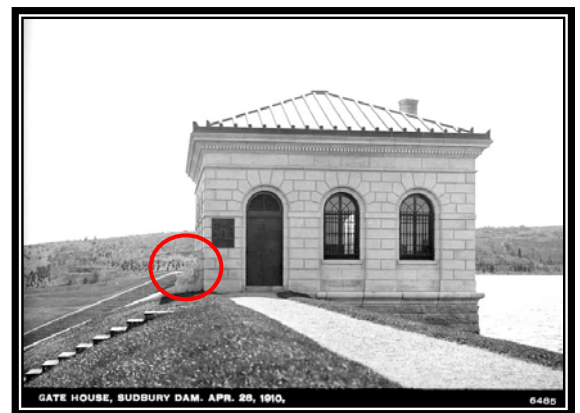
6. Public Access Plan Goals

The Division's public access management goals are used to develop the policies outlined in the Plan. These goals are:

- To protect drinking water resources from public access impacts.
- To properly manage a public resource used as a source supply of drinking water.
- To protect historic and prehistoric sites within the watershed.
- To improve and protect long-term ecosystem health and biological diversity within the watershed.
- To provide appropriate public access for recreational purposes.



Gargoyle at Sudbury Reservoir Gatehouse



Terry Bickford, MWR